

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
6 May 2005 (06.05.2005)

PCT

(10) International Publication Number  
**WO 2005/040419 A1**

(51) International Patent Classification<sup>7</sup>: **C12Q 1/68**

Burgstrasse 157, CH-4125 Riehen (CH). **KOLB, Fabrice** [FR/FR]; 68, Allée Nathan Katz, FR-68100 Mulhouse (FR).

(21) International Application Number:  
**PCT/EP2004/011511**

(74) Agent: **GRUBB, Philip**; Novartis AG, Corporate Intellectual Property, CH-4002 Basel (CH).

(22) International Filing Date: 13 October 2004 (13.10.2004)

(81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/510,884 14 October 2003 (14.10.2003) US

(84) **Designated States (unless otherwise indicated, for every kind of regional protection available):** ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (for all designated States except AT, US): **NOVARTIS AG** [CH/CH]; Lichtstrasse 35, CH-4056 Basel (CH).

**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(71) Applicant (for AT only): **NOVARTIS PHARMA GMBH** [AT/AT]; Brunner Strasse 59, A-1230 Vienna (AT).

(71) Applicant (for all designated States except US): **NOVARTIS FORSCHUNGSSTIFTUNG ZWEIGNIEDERLASSUNG** [CH/CH]; Friedrich Miescher Institute for Biomedical Research, Maulbeerstrasse 66, CH-4058 Basel (CH).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **WEILER, Jan** [DE/DE]; Kandelstrasse 4, 79541 Lörrach-Haagen (DE). **HALL, Jonathan** [GB/CH]; Ramstelweg 19, CH-4143 Dornach (CH). **WANKE, Christoph** [DE/CH]; Heusser-Staub-Str.78, CH-8610 Uster (CH). **LANGE, Jörg, Bernd** [DE/DE]; Roseggerstrasse 8/3, 79102 Freiburg i. Br. (DE). **FILIPOWICZ, Witold** [PL/CH];

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

A1

9

(54) Title: OLIGONUCLEOTIDE MICROARRAY

(57) Abstract: The present invention relates to oligonucleotide microarrays comprising short chemically modified RNA oligonucleotides and uses of such microarrays in genomics applications. More specifically, the invention provides an oligonucleotide array comprising a surface and a plurality of oligonucleotide, wherein at least one oligonucleotide has at least one modified sugar moiety at the 2'OH position. The microarrays of the invention are more specifically useful to detect small RNAs.

**WO 2005/040419 A1**